HYDROMODIFICATION							
Eugene Matzat, Purdue CES, Sec	Eugene Matzat, Purdue CES, Section Moderator						
Objectives	Measures of Success	Resources Needed	Agencies	Time			
Protect and restore in-stream	Increase in high	Funds, technical	IDEM, IDNR,	1-5			
and riparian habitats (channels)	quality in-stream and	assistance, education,	US Army Corps of Engineers, US Fish	years			
	riparian habitats and	and monitoring	& Wildlife				
	biodiversity.						
Reduce erosion, and sediment	Reduced rates of	Funds, technical	IDEM, IDNR,	5-10			
and chemical pollutant loading	erosion and sediment	assistance, education,	US Army Corps of Engineers,	years			
	and chemical	and monitoring	Drainage Boards, USDA-NRCS				
	pollutants						
Minimize the negative physical	Fishable, swimmable,	Funds, technical	IDEM, IDNR,	10-15			
and chemical impacts of	drinkable surface	assistance, education,	US Army Corps of Engineers,	years			
channelization (surface waters)	waters.	and monitoring	Drainage Boards				

(Hydromodification actions determined at December 15, 2003 public meeting.)

Objective: Protect and restore in-stream and riparian habitats (channels)					
Actions	Measures of Success	Resources Needed	Agencies	Time	
Develop additional diagnostic	Identification of water	US EPA 319 NPS;	IDEM; EPA	1-5	
studies for streams	quality status for	additional staff		years	
	streams				
Develop additional diagnostic	Identification of water	Lake & River	IDNR-DOSC	1-5	
studies for streams	quality status for	Enhancement		years	
	streams	(LARE)			
Develop additional diagnostic	Identification of water	Hoosier River Watch	IDNR-DOSC; Purdue University	1-5	
studies for streams	quality status for	Program		years	
	streams				
Establish in-stream habitats	Improved aquatic	Technical assistance;	IDNR-F&W US Fish & Wildlife;	5-10	
	habitat for invertebrates	cost-share	County Drainage Boards	years	
Establish/maintain riparian	Reduced	Technical assistance;	IDNR-DOSC; USDA-NRCS; County	5-10	
buffers and filter strips	sedimentation,	cost-share programs;	Drainage Boards; County Surveyors	years	
	chemicals, organics and	education			
	temperature (sunlight)				
Reduce/eliminate non-native	Restoration of native	Staff for species	IDNR; US Fish & Wildlife; US Army	5-10	
species	species	removal; additional	Corps of Engineers	years	
		funding			
Encourage establishment of	Reduced	Technical assistance;	IDNR-DOSC; IDNR-F&W IDNR-	10-15	
additional riparian areas	sedimentation;	cost-share	DOF; USDA-NRCS; US Fish &	years	
	additional riparian		Wildlife		
	areas and buffers				
Remove unneeded dams and	Removal of unneeded	Dam and structure	IDNR-F&W IDNR-DOW; US Fish &	10-15	
man-made obstructions where	structures; less	evaluations; technical	Wildlife	years	
feasible	sedimentation;	assistance (with			
	improved fish species	removals)			
	migration				

Objective: Reduce erosion, and sediment and chemical pollutant loading					
Actions	Measures of Success	Resources Needed	Agencies	Time	
Enforce existing highway and urban erosion control regulations	Reduced sedimentation and chemical run-off	On-site inspectors for improved enforcement	IDNR-DOSC; INDOT; IDEM; Federal Highway Administration	1-5 years	
_	from highway and urban sources				
Stabilize stream and channel banks	Reduced sediment loads and improved technical specifications for County Drainage Boards	Technical assistance; cost-share	IDNR-DOSC (LARE); USDA-NRCS; County Drainage Boards; US Army Corps of Engineers (Section 14)	1-5 years	
Demonstrate restoration of stream and channel meanders (restoration of original stream and channel courses)	Reduced stream flow and resultant erosion; reduced water temperatures; improved aquatic habitat	Technical assistance; educational assistance; cost-share	IDNR-DOW; IDNR-F&W US EPA 319 NPS; US Fish & Wildlife; US Army Corps of Engineers	5-10 years	

Objective: Minimize the negative physical and chemical impacts of channelization (surface waters)					
Actions	Measures of Success	Resources Needed	Agencies	Time	
Stabilize stream and channel	Reduced sediment	Technical assistance;	IDNR-DOSC (LARE); USDA-NRCS;	1-5	
banks	loads and improved	cost-share	County Drainage Boards; US Army	years	
	technical		Corps of Engineers (Section 14)		
	specifications for				
	County Drainage				
	Boards				
Demonstrate restoration of	Reduced stream flow	Technical assistance;	IDNR-DOW; IDNR-F&W US EPA	5-10	
stream and channel meanders	and resultant erosion;	educational	319 NPS; US Fish & Wildlife; US	years	
(restoration of original stream	reduced water	assistance; cost-share	Army Corps of Engineers		
and channel courses)	temperatures;				
	improved aquatic				
	habitat				
Encourage establishment of	Reduced	Technical assistance;	IDNR-DOSC; IDNR-F&W IDNR-	10-15	
additional riparian areas	sedimentation;	cost-share	DOF; USDA-NRCS; US Fish &	years	
	additional riparian		Wildlife		
	areas and buffers				

WETLANDS and RIPARIAN AREAS					
Kenneth Eck, Purdue CES, Sec	tion Moderator				
Objectives	Measures of Success	Resources Needed	Agencies	Time	
Protect wetlands and riparian	No net loss of wetlands	Funds, technical	IDNR; IDEM;	1-5	
areas in Coastal Zone.	and riparian areas	assistance,	US Army Corps of Engineers; US	years	
	_	educational	Fish & Wildlife; USDA-NRCS		
Restore and enhance wetlands	Increase in quantity and	Funds, technical	IDNR; IDEM;	1-5	
and riparian areas in Coastal	quality of wetlands and	assistance,	US Army Corps of Engineers; US	years	
Zone	riparian areas	educational	Fish & Wildlife; USDA-NRCS		
		assistance			
Explore applications for use	Increased use and	Educational	IDEM; IDNR;	5 -15	
of vegetated treatment	decreased cost of	assistance, policy	Ind. State Board of Health; USDA-	years	
systems	vegetated treatment	changes for select	NRCS; USDA-RD		
	systems	systems, funds for			
		demonstrations			

(Wetlands and Riparian Areas actions determined at January 20, 2004 public meeting.)

Objective: Protect wetlands and riparian areas in Coastal Zone.					
Actions	Measures of Success	Resources Needed	Agencies	Time	
Enforce existing legislation	No net loss of	Increased monitoring	IDNR; IDEM; USDA (Farm Bill,	1-5	
related to wetlands and riparian	wetlands and riparian	of wetlands and	Swamp Buster)	years	
areas protection	areas or quality	riparian areas			
Develop and promote	No net loss of	Educational assistance	IDNR; Purdue CES; USDA-NRCS	1-5	
educational programs targeting	wetlands and riparian			years	
wetlands and riparian areas	areas or quality				
benefits and protection					
Maintain Indiana wetlands	No net loss of	Educational assistance	IDNR-DOSC; Office of the	1-5	
website and newsletter	wetlands and riparian		Commissioner of Agriculture;	years	
	areas or quality		IDEM		
Expand "legacy"-type State	No net loss of	Funding, technical	IDNR	1-5	
easement programs to preserve	wetlands and riparian	assistance		years	
wetlands and riparian areas	areas or quality				
Fully implement the <i>Indiana</i>	No net loss of	Funding, technical	IDNR	5-10	
Wetlands Conservation Plan	wetlands and riparian	assistance; educational		years	
	areas or quality	assistance			

Objective: Restore and enhance wetlands and riparian areas in Coastal Zone.					
Actions	Measures of Success	Resources Needed	Agencies	Time	
Develop and promote	Increase in quantity and	Educational assistance	IDNR; Purdue CES; USDA-	1-5	
educational programs targeting	quality of wetlands and		NRCS	years	
wetlands and riparian areas	riparian areas				
benefits and restoration					
Maintain Indiana wetlands	Increase in quantity and	Educational assistance	IDNR-DOSC; Office of the	1-5	
website and newsletter	quality of wetlands and		Commissioner of Agriculture;	years	
	riparian areas		IDEM		
Expand "legacy"-type State	Increase in quantity and	Funding, technical	IDNR	1-5	
easement programs to restore	quality of wetlands and	assistance		years	
and expand wetlands and	riparian areas				
riparian areas					
Fully implement the <i>Indiana</i>	Increase in quantity and	Funding; technical	IDNR	5-10	
Wetlands Conservation Plan	quality of wetlands and	assistance; educational		years	
	riparian areas	assistance			
Provide technical assistance in	Increase in quantity and	Technical assistance	IDNR; USDA-NRCS; US F&W	5-15	
restoring and enhancing	quality of wetlands and		US-ACE	years	
wetlands and riparian areas	riparian areas				
Increase public knowledge of	Increase in quantity	Funding; educational	IDNR; IDEM; USDA-NRCS; US	5-15	
existing financial programs for	and quality of wetlands	assistance	F&W	years	
restoring and enhancing	and riparian areas				
wetlands and riparian areas					
Create additional financial	Increase in quantity	Funding; educational	IDNR; IDEM; USDA-NRCS; US	5-15	
programs for restoring and	and quality of wetlands	assistance	F&W	years	
enhancing wetlands and riparian	and riparian areas				
areas					

Objective: Explore applications for use of vegetated treatment systems.					
Actions	Measures of Success	Resources Needed	Agencies	Time	
Encourage establishment of	Increase in wetlands	Technical assistance;	IDNR-DOSC; IDNR-F&W IDNR-	5-15	
additional buffer areas and	and riparian areas	educational assistance;	DOF; USDA-NRCS; US Fish &	years	
vegetated filter strips	quality; reduced	cost-share	Wildlife; County Drainage Boards;		
	sediment, chemicals		County Surveyors		
	and organics in surface				
	waters; acres of				
	additional buffer areas				
Encourage establishment of	Increase in wetlands	Technical assistance;	IDNR-DOSC; IDNR-F&W IDNR-	5-15	
additional constructed	and riparian areas	educational assistance;	DOF; USDA-NRCS; US Fish &	years	
wetlands	quality; reduced	cost-share	Wildlife		
	sediment, chemicals				
	and organics in surface				
	waters; number of				
	constructed wetlands				

Additional concerns of Hydromodification and Wetlands & Riparian Areas Group:

- 1.) Urban Issue: Need for more pervious parking areas with block and grass areas 2.) Concern over beaver dams and drainage